

Application Serial No. 10/058,416

Reply to Office Action of July 11, 2003, and further to the Notice of Appeal filed January 12, 2004

REMARKS

Favorable consideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 7-13 are pending in the application, with Claims 7 and 12 amended and Claim 13 added by the present amendment.

In the outstanding Office Action dated July 11, 2003, Claims 7-12 were rejected under 35 U.S.C. § 112, first paragraph; Claims 7, and 9-12 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Street et al. (U.S. Patent No. 5,117,114, hereinafter Street); Claim 8 was rejected under 35 U.S.C. § 103 as being unpatentable over Street in view of Morton (U.S. Patent No. 5,693,947); Claims 7 and 9-12 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Takahashi et al. (U.S. Patent No. 5,164,973, hereinafter Takahashi); Claim 8 was rejected under 35 U.S.C. § 103 as being unpatentable over Takahashi in view of Morton; Claims 7 and 9-12 were rejected under 35 U.S.C. § 102(b) as being anticipated by Shaw et al. (U.S. Patent No. 4,338,521, hereinafter Shaw); Claim 8 was rejected under 35 U.S.C. § 103 as being unpatentable over Shaw in view of Morton.

Applicants traverse the pending rejection of Claims 7-12 under 35 U.S.C. § 112, first paragraph. As noted in Applicants' amendment filed on February 24, 2003, support for these claims is found in Applicants' originally filed Figure 2 and supporting specification.

However, to expedite progress in this matter, Claim 7 is further amended to clarify Applicants' claimed invention by reciting that the plurality of detector modules are "arranged polygonally around a circumference of a measuring area and placed opposite a fixed emitter, said fixed emitter located outside said circumference." Claim 12 is amended to recite similar

features. Support for these amendments is found in Applicants' original specification.¹ No new matter is added.

Briefly recapitulating, Claim 7 is directed to a semiconductor detector for use in a high-speed X-ray CT. The detector includes a plurality of detector modules each comprising a plurality of X-ray detection pixels arranged unidirectional on a single planar semiconductor substrate. The plurality of detector modules is arranged polygonally around a circumference of a measuring area and is placed opposite a fixed emitter. The fixed emitter is located outside the circumference of the measuring area. With this configuration, it is unnecessary to discretely arrange detection pixels or to have a drive portion to move the emitter. Thus, the claimed inventions provide for less complicated, less expensive, and longer-lived devices than conventional detectors.²

Street discloses a radiation detector including an X-ray tube 211 that emits a radially directed beam 212 to a target.³ The X-ray tube is *rotated* around the target.⁴ Also, by inspection of the Figures, the X-ray tube of Street is located within a circumference circumscribed by the detectors. However, Street does not disclose or suggest a plurality of detector modules arranged around a circumference of a measuring area such that a *fixed* emitter is located *outside* the circumference, as recited in Claims 7 and 12. In Street, the detector modules are arranged such that the emitter is located *within* the circumference. In addition, in Street the emitter is not fixed but *rotates* around the target. Therefore, the device of Street suffers the same limitations as Applicants Admitted Prior Art relative to

¹ Specification, Figure 2; page 5, lines 15-19; page 8, lines 7-23.

² Specification, page 5, lines 6-12.

³ Street, Figure 11.

⁴ Street, column 9, lines 35-44.

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mechanically rotating emitters/detectors.⁵

Takahashi discloses a projection detecting apparatus for computer tomography.⁶ Like Street, the device of Takahashi includes a detector and an emitter that are jointly *rotated* around the object to be inspected.⁷ Also, by inspection of the Figures, the emitter of Takahashi is located within a circumference circumscribed by the detectors. Thus, like Street, Takahashi does not disclose or suggest a plurality of detector modules arranged around a circumference of a measuring area such that a *fixed* emitter is located *outside* the circumference, as recited in Claims 7 and 12.

Shaw discloses a *rotatable* tomographic apparatus including a modular detection array.⁸ Also, by inspection of the Figures, the emitter of Shaw is located within a circumference circumscribed by the detectors. Thus, like Street and Takahashi, Shaw does not disclose or suggest a plurality of detector modules arranged around a circumference of a measuring area such that a *fixed* emitter is located *outside* the circumference, as recited in Claims 7 and 12.

Applicants have also considered the Morton reference and submit that Morton does not cure the deficiencies of Street, Takahashi, and Shaw. Therefore, as none of the cited prior art, individually or in combination, disclose or suggest all the elements of independent Claims 7 and 12, Applicants submit the inventions defined by Claims 7 and 12, and all claims depending therefrom, are not anticipated and are not rendered obvious by the asserted prior art for at least the reasons stated above.⁹

⁵ Specification, page 2, lines 8-11.

⁶ Takahashi, column 2, lines 28-34.

⁷ Takahashi, Figure 2.

⁸ Shaw, column 2, lines 44-56 and Figure 1.

⁹ MPEP § 2142 "...the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of

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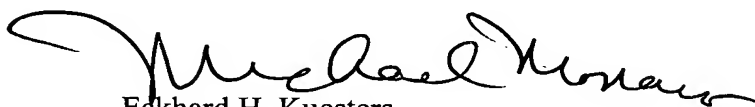
New Claim 13 corresponds to original Claim 7 to include an emitter. Support for new Claim 13 is found in Applicants' originally filed specification. No new matter is added.

Applicants submit new Claim 13 is allowable for at least the same reasons as stated above relative to Claim 7.

Accordingly, in view of the present amendment and in light of the previous discussion, it is respectfully submitted that the application is believed in condition for allowance and early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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success must both be found in the prior art, and not based on applicant's disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)."